



Overview of the 2006 Annual Surveillance and Maintenance Report (Including 4th Quarter 2006) for the DOE LM Rocky Flats Site

Rocky Flats Stewardship Council

May 7, 2007



RFETS Surface-Water Monitoring and Operations

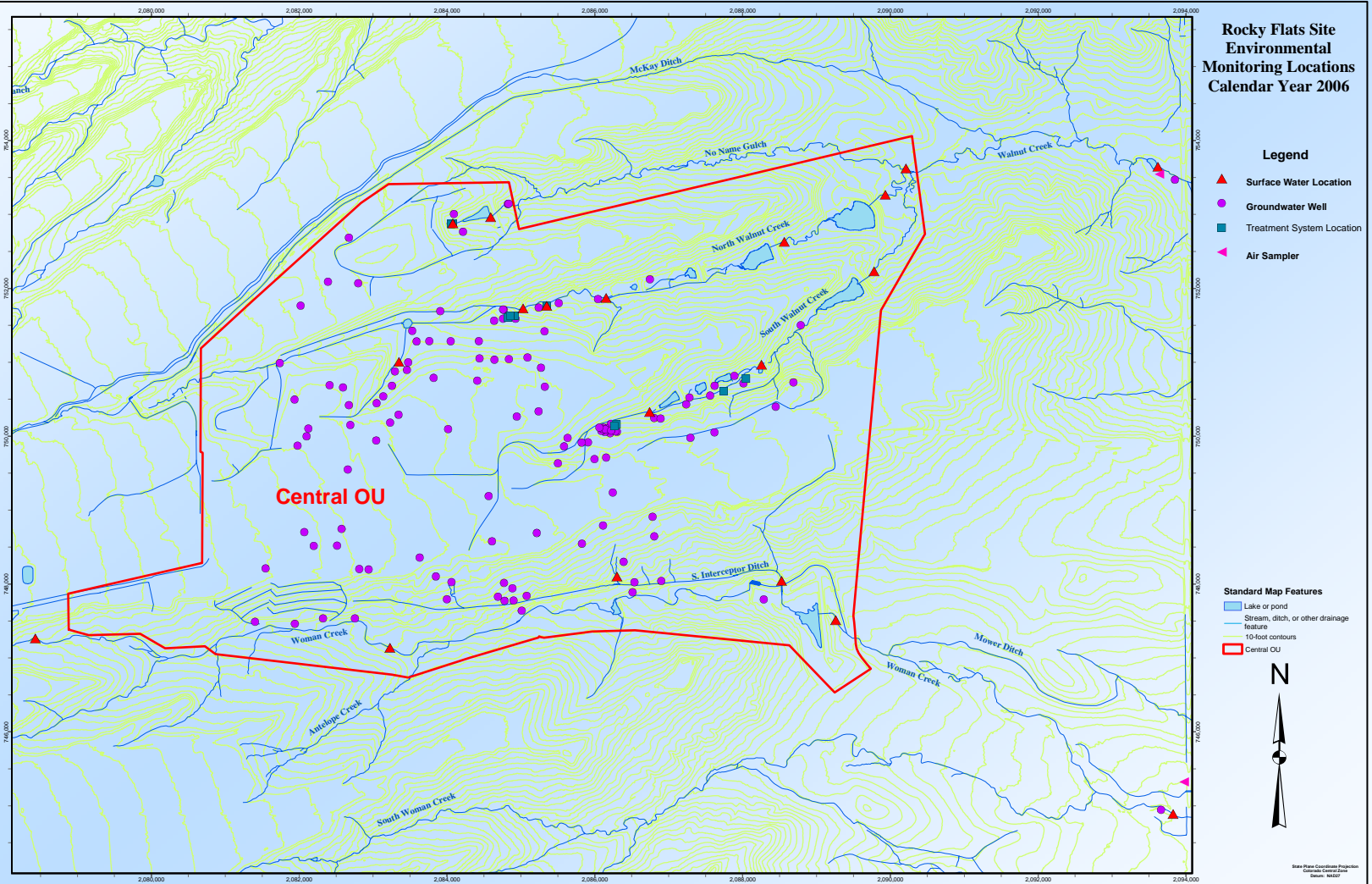
CY2006 (January – December)





CY06 Environmental Monitoring Locations

Surface Water Locations: 19
Groundwater Wells: 126
Treatment System Locations: 13





CY06 Highlights: Surface-Water Monitoring and Operations

- Collected 139 samples including 70 composites comprised of 2,829 grabs
- No terminal pond discharges during CY06





CY06 Highlights: Surface-Water Monitoring and Operations (continued)

- Water quality at all Points of Compliance below applicable standards
- Water quality at all Points of Evaluation, except GS10, below applicable standards
 - Reportable values for total uranium at GS10 likely caused by groundwater contributions of naturally occurring uranium to S. Walnut Creek





CY06 Highlights: Surface-Water Monitoring and Operations (continued)

- Surface-water quality results supporting Original Landfill indicate remedy functioning properly
- Surface-water quality results supporting Present Landfill indicate remedy functioning properly
 - Regulators consulted on elevated results for boron, arsenic, and manganese





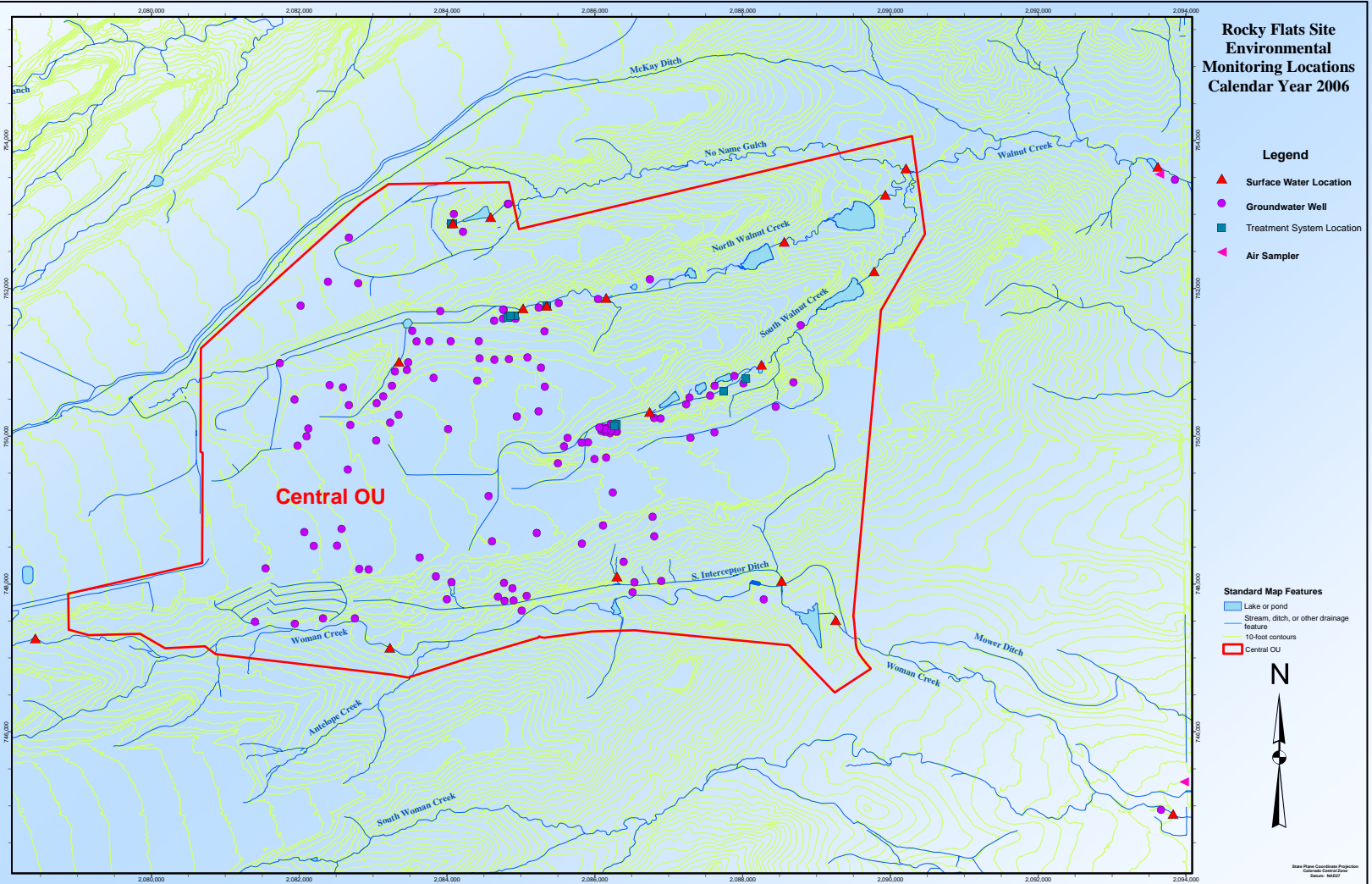
Rocky Flats Site Ground Water, CY 2006





CY06 Environmental Monitoring Locations

Surface Water Locations: 19
Ground Water Wells: 126
Treatment System Locations: 13





Summary of Events

- Routine and special monitoring
- Replaced media in Mound treatment system
- Repaired Solar Ponds treatment system
- Installed instrumentation at Mound and East Trenches systems
- Initiated treatability study at Solar Ponds treatment system
- Observed and tracked development of slump south of former B991



Summary Conclusions

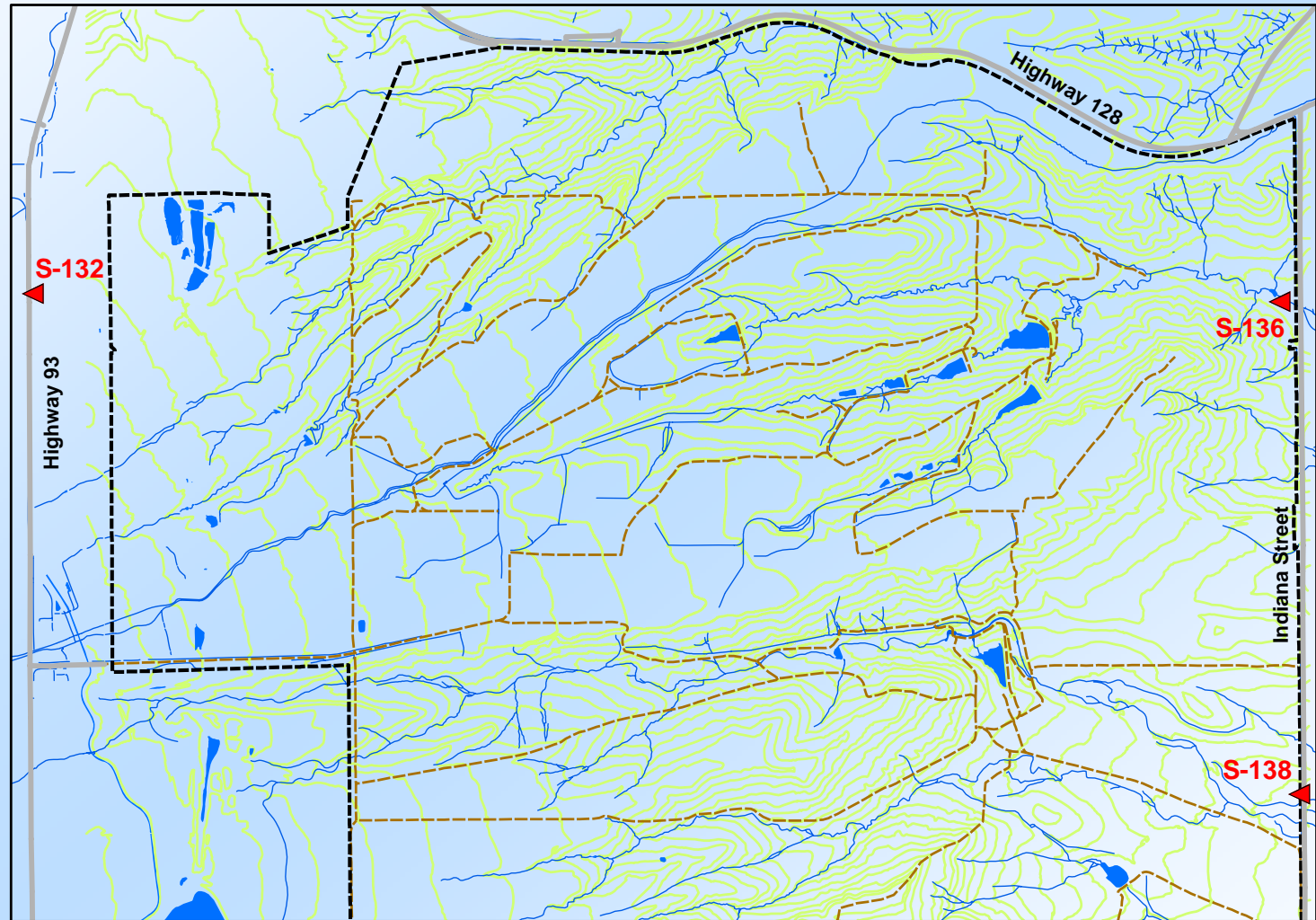
- Ground water quality is generally consistent with previous years' data
- Following repairs and media replacement, treatment systems performed as designed through the end of 2006
- Ground water quality data indicate remedy is functioning properly
 - Uranium concentrations in one of the downgradient wells at the Original Landfill are statistically higher than in the upgradient well; will be evaluated in 2007 to determine natural vs. anthropogenic



Air Quality



Monitoring Locations





Air Monitoring

- Routine analysis of air monitoring filters at three stations conducted through September 2006.
- Since October 2006, samples at S-136 and S-138 are archived pending need for analysis.
- Sampling at S-132 has been discontinued.



2006 Results

- Measured isotopes (except for U) were generally below detection limits and not measurable.
- Airborne radionuclides were dominated by U-isotopes of natural origin.
- Lacking large-scale soil disturbances, potential air emissions are expected to remain at or below detection limits.

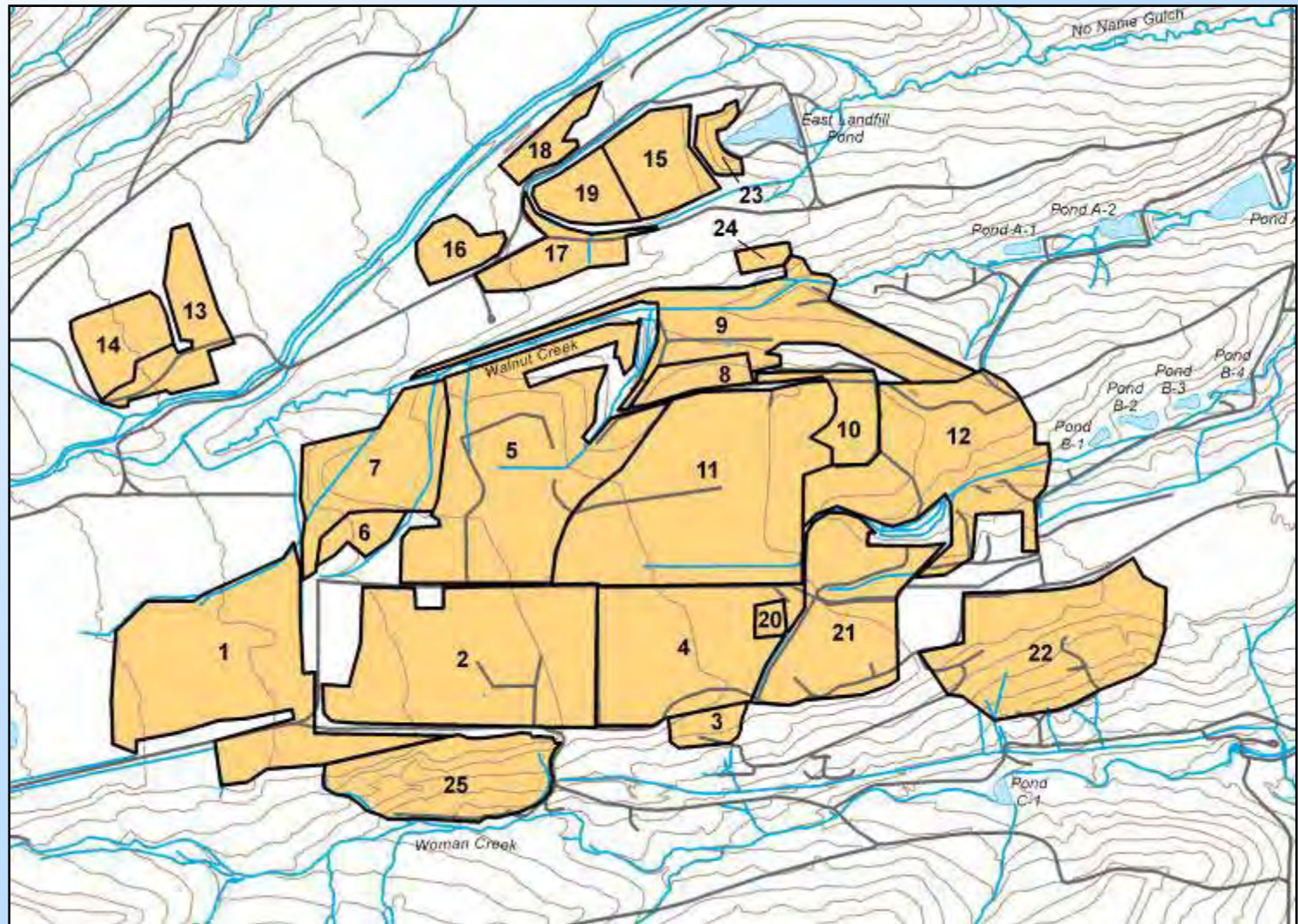


Ecological Monitoring FY06





Revegetation Monitoring





2003

2005



2006



2003



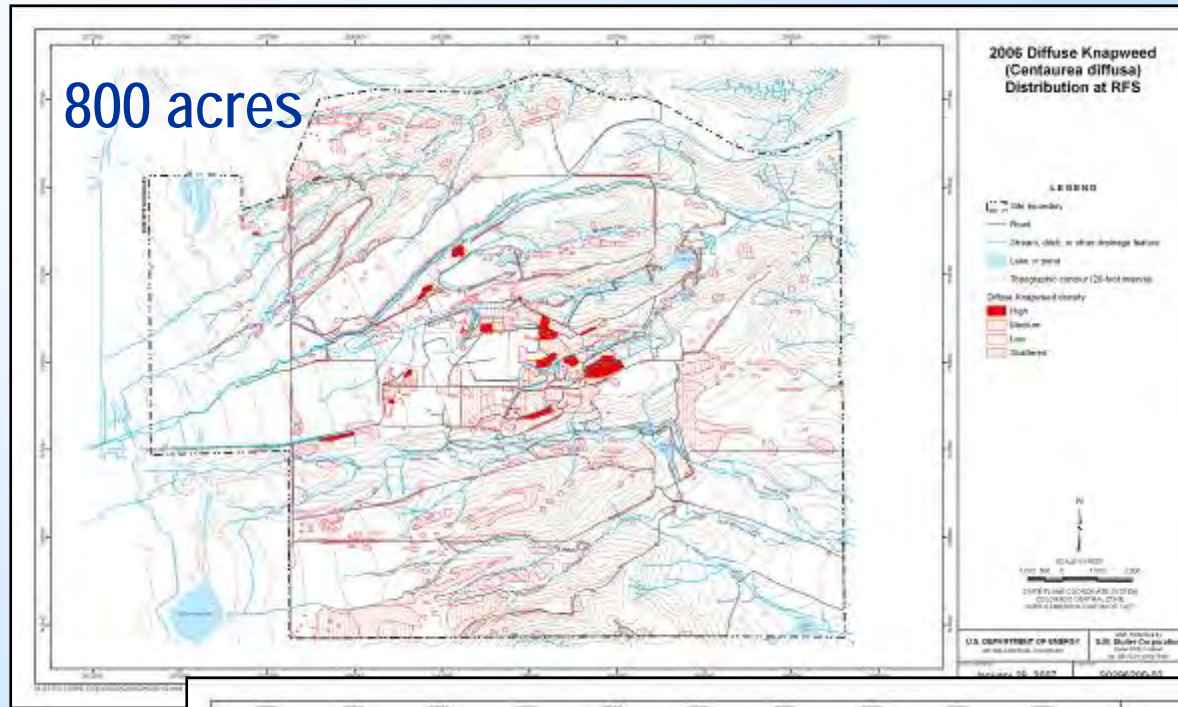
2005



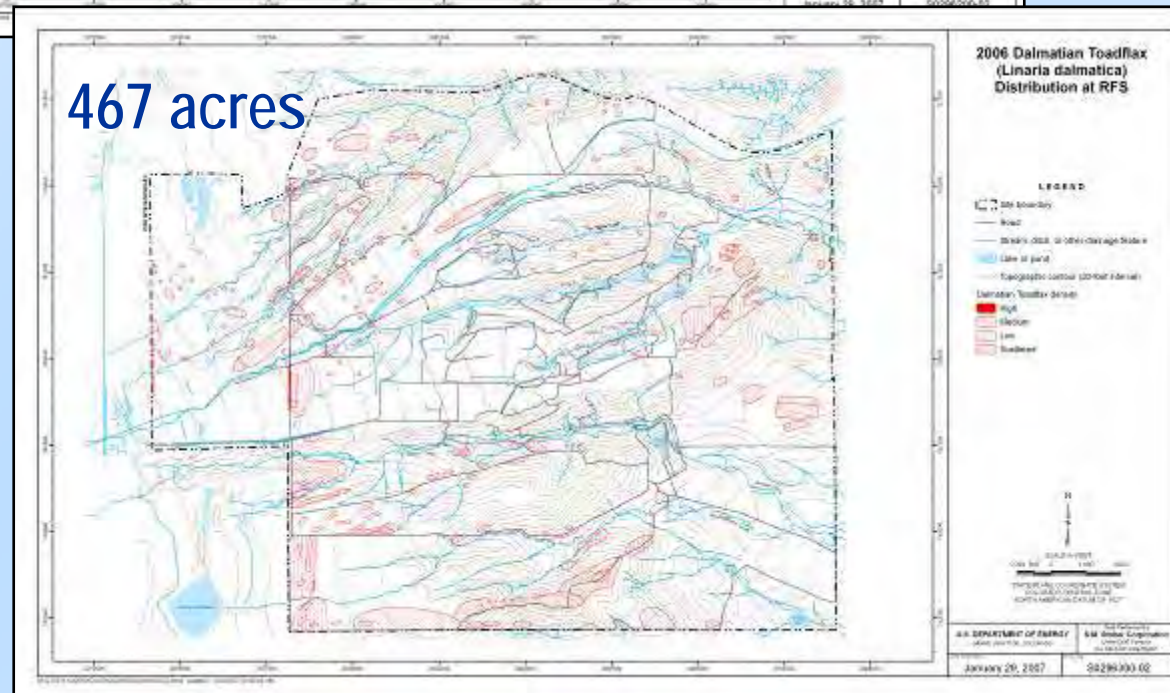
2006



800 acres



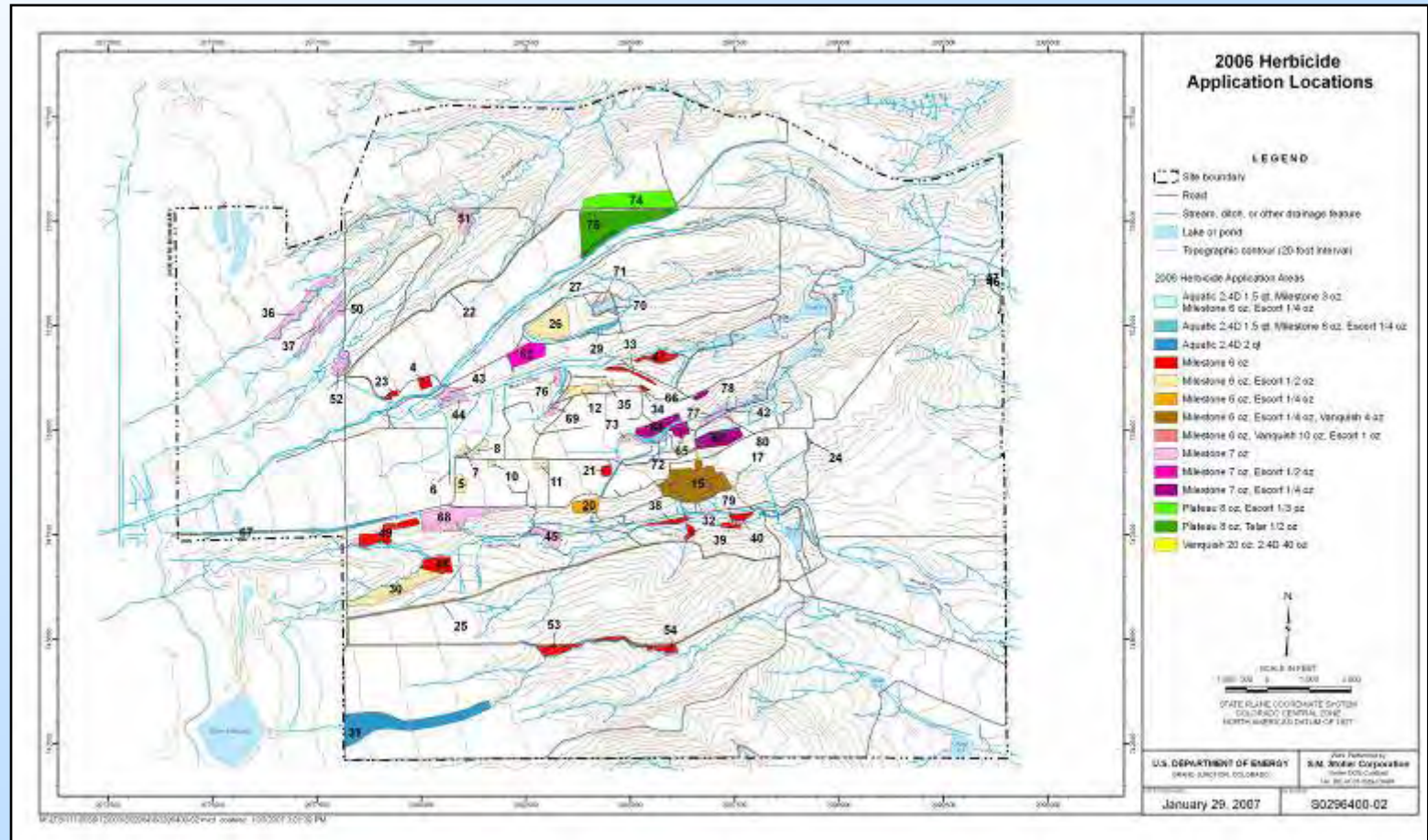
467 acres



We Mapping



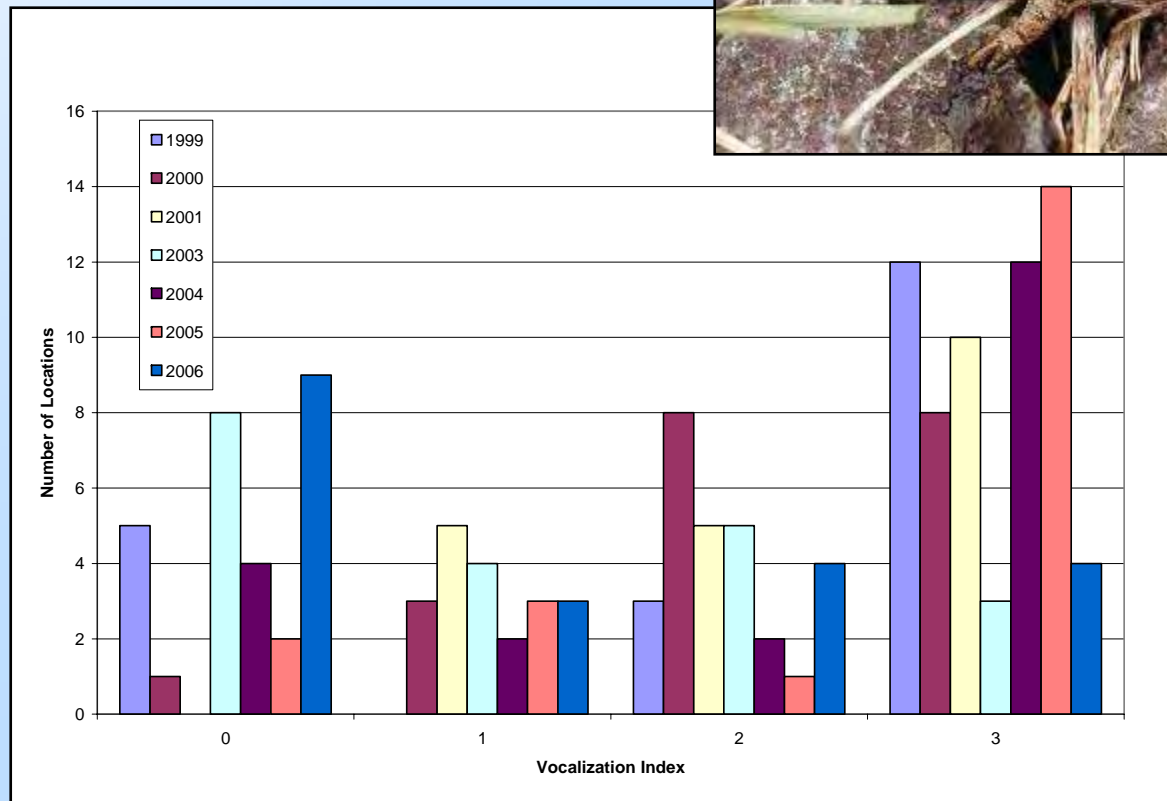
Weed Control



401 acres treated with herbicides in 2006



Boreal Chorus Frog Vocalization Survey





Annual 2006 Site Surveillance and Maintenance

Site Operations



Site Operations

- **Present Landfill**

- Quarterly inspections performed for the 1st and 2nd quarters
- Monthly inspections performed for the 3rd and 4th quarters
- Vegetative cover inspected monthly from July through end of growing season
- Followed prescribed checklist in Monitoring and Maintenance Plan (May 2006)
- **No significant concerns**





Site Operations

- **Present Landfill - Settlement Monuments**
 - 9 monuments across top of landfill
 - 6 monuments on east face of landfill
 - Installed in August
 - All monuments surveyed in December





Site Operations

- **Original Landfill**

- Quarterly inspections 1st and 2nd quarters
- Monthly inspections 3rd and 4th quarters
- Veg cover inspected July to end of growing season
- Followed prescribed checklist in Monitoring and Maintenance Plan (Feb 2006)





Site Operations

- **Original Landfill Seeps and Slumps**
 - Seep #7
 - Investigation of “burrito drain”
 - Seep #4
 - Shallow trench dug to the West Perimeter Ditch
 - West Perimeter Ditch slump





Original Landfill Slumps



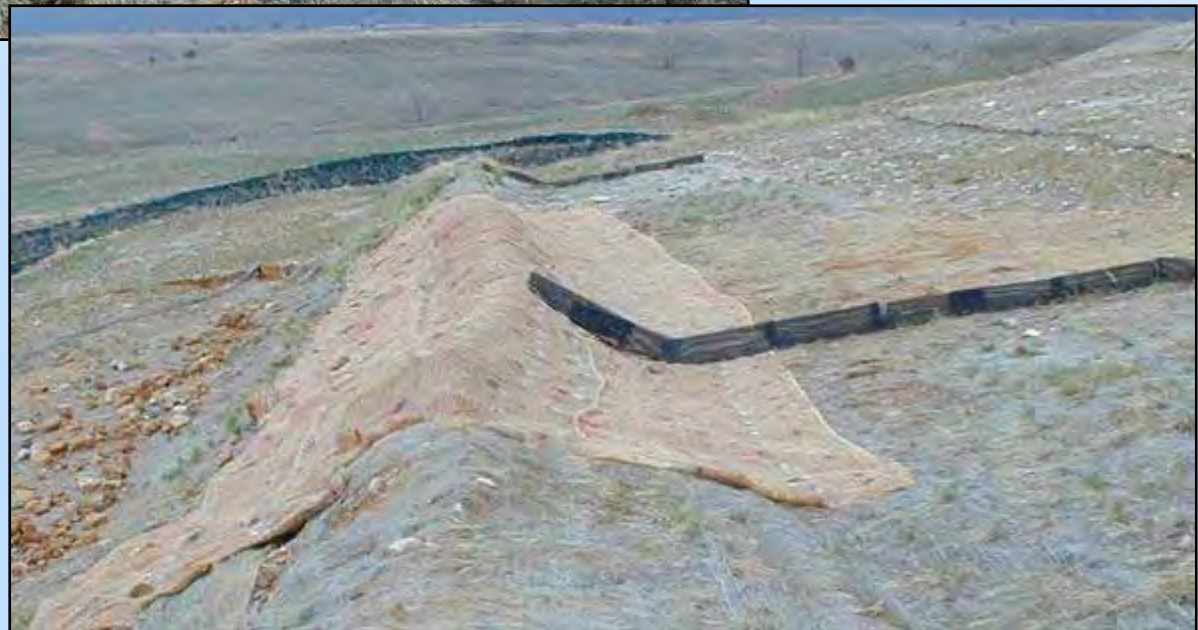


Slump Photos





Berm Repairs





Site Operations

- **Routine Site Inspections**
 - Annual Inspections
 - Special Inspections (precipitation, seismic, and human activity)
 - Erosion Controls, Ponds, and Stormwater Management Structures
 - Monitoring Locations
 - GW Treatment Systems
 - Vegetation
 - Fences and Postings



Site Operations

- **Access/Security**
 - West Access gate
 - Signage has reduced vehicle damage
 - East Property Boundary
 - Frequent maintenance necessary
 - Surveillance Subcontract





Site Operations

- **Site Road Upgrades**

- August & September
- Allow better all-weather access for surveillance and maintenance work





Questions?